



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,956	08/03/2001	James L. Rodgers	32329 00027	1214

7590

06/16/2004

SQUIRE, SANDERS & DEMPSEY L.L.P.
Two Renaissance Square
Suite 2700
40 North Central Avenue
Phoenix, AZ 85004-4424

EXAMINER

LEE, BENJAMIN C

ART UNIT	PAPER NUMBER
----------	--------------

2632

DATE MAILED: 06/16/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/921,956

Applicant(s)

RODGERS ET AL.

Examiner

Benjamin C. Lee

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-16 is/are pending in the application.
- 4a) Of the above claim(s) 2-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 2-4, drawn to control of an RF antenna circuit and a sensor for monitoring, classified in class 340, subclass 540 for specific condition-responsive indication.
 - II. Claims 5-16, drawn to the selective addressing/polling of antennas in a communication system, classified in class 340, subclass 3.5 for selective addressing/polling for monitoring and control in electrical communication system.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions I and II are for selective RF antenna output and sensor output monitoring (group I), and for selective plural RF antenna output reporting (group II), respectively; which are different in modes of operation, overall function, and overall effect (i.e. one with sensing while the other is purely for RF antenna selective output). The inventions are disclosed as separate/alternative embodiments.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Art Unit: 2632

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Mr. Bachand on 8/13/03 a provisional election was made **without** traverse to prosecute the invention of Group II, claims 5-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 2-4 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claims Status

8. Claims 5-16 are elected without traverse; claims 2-4 are non-elected and withdrawn from consideration.

Claim Objections

9. Claims 8 and 15-16 are objected to because of the following informalities:

- 1) In claim 8, line 6, "wherein" should be deleted.

Art Unit: 2632

2) In 15, line 9, "the coupler" should have read --the first coupler--.

3) In claim 16:

a) line 2, "the monitor" should have read --a monitor--; "a line" should have read --a network-- to provide antecedence for "the network" of lines 11-12;

b) line 5, "the coupler" should have read --the first coupler--.

c) line 15 does not end with a period, or otherwise text may be missing.

--Appropriate correction is required.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goff et al. (US pat. #6,335,686) in view of Tuttle (5,914,671).

1) In considering claims 5-6:

a) Goff et al. teaches in a multiple antenna RFID system comprising a monitor (central computer of col. 15, lines 21-25) linking a plurality of antenna controllers (controller 330, 340 of Fig. 10 in the plurality according to col. 15, lines 21-25) each interfaces (port 320) a plurality of antennas (312, 314, 315 of Fig. 10) and including the use of RF amplifiers and interfaces for coupling the interfaced antennas (312, 314, 316 of Fig. 10) that are addressable (Fig. 10 and col. 13, lines 56-58)

while

b) Tuttle teaches a system comprising : a monitor (152, 170 of Fig. 2) and a plurality of antenna controllers (50) coupled to the monitor via a network (154); each antenna controller coupling and interfacing a plurality of antennas (52 in Fig. 2).

In view of the teachings by Goff et al. and Tuttle, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that in a system such as taught by Goff et al. comprising multiple antenna controllers linked to a single central computer/monitor, a network such as taught by Tuttle can be used for such a link, so that in response to a command received from the monitor and identified to the antenna controller by a respective address (addressable), the coupler couples at least one antenna interface for amplifying a signal from an antenna interface identified by the command.

12. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goff et al. in view of Tuttle and Flaxl (US pat. #5,729,236).

1) In considering claims 7-8, Goff et al. and Tuttle made obvious all of the claimed subject matter as in the consideration of claim 5, while:

Flaxl teaches an identification system reader with multiplexed/addressable antennas (Abstract; Fig. 2) that further includes a memory (30) and a plurality of reactive elements (32) selectively coupled in accordance with contents of the memory to the selected antenna so that in response to an antenna controller address, the coupler couples at least one antenna interface and the memory provides contents for selectively coupling at least one of the reactive elements to the antenna.

In view of the teachings by Goff et al. Tuttle and Flaxl, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include a selective/addressable reactive element coupling feature and memory such as taught by Flaxl in a multiple antenna addressable system such as taught by Goff et al. and Tuttle in order to specifically tune the individual antennas for best communication, whereby coupling of the antenna tuning reactive elements to the antenna at the point between the antenna and the amplifier constitutes the claimed coupling at least one of the reactive elements to the amplifier input.

2) In considering claims 9-10, Goff et al. Tuttle and Flaxl made obvious all of the claimed subject matter as in the consideration of claim 7, whereby:

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that in order to anticipate future variations or modifications to the antennas or transponders they are communicating with, the memory in a system such as taught by Goff et al. Tuttle and Flaxl can be implemented by a programmable type memory that receive updating commands via the network interface allowing remote updating for convenience.

13. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goff et al. in view of Tuttle and Callaway, Jr. et al. (US pat. #5,838,741).

1) In considering claims 11-12, Goff et al. and Tuttle made obvious all of the claimed subject matter as in the consideration of claim 5, while:

Callaway, Jr. et al. teaches the known use of a squelch circuit in a communication device to dissipate energy from the antenna interface prior to normal operation of the amplifier (Abstract and Fig. 1, whereby the delay dissipates energy to reduce noise).

In view of the teachings by Goff et al., Tuttle and Callaway, Jr. et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include a squelch circuit such as taught by Callaway, Jr. et al. in a communication system such as taught by Goff et al. and Tuttle to dissipate energy from the antenna interface to reduce noise.

14. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goff et al. in view of Tuttle and Craig et al. (US pat. #4,317,229).

1) In considering claims 13-14, Goff et al. and Tuttle made obvious all of the claimed subject matter as in the consideration of claim 5, wherein:

a) Goff et al. and Tuttle teaches the known use of a networked system of controllers and antenna interfaces for multiple addressed antennas for selective communication through each addressed antenna associated with a specific location;

while:

b) Craig et al. further teaches the known use of multiple switchable diversity antennas at each location for best signal reception, whereby a difference circuit at the diversity antenna array interface such that signal from each diversity antenna interface is compared to a predetermined minimum threshold as well as to each other to determine antennas having signal received signal strength above the predetermined signal strength as well as the one with the highest relative signal strength so that the controller selects the antenna having the strongest signal to commence communication (Abstract; col. 5, line 32 to col. 6, line 24 and Fig. 3).

In view of the teachings by Goff et al., Tuttle and Craig et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that diversity antennas and a difference circuit such as taught by Craig et al. can be used with a communication system such

Art Unit: 2632

as taught by Goff et al. and Tuttle so that communication at each location can be ensured by use of the diversity antenna array in combination with the difference circuit antenna selection. Furthermore, while Craig et al. uses stored values for each location/sector antenna array to establish the predetermined minimum signal strength for comparison (col. 5, lines 65-67), it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that such minimum threshold can be established at the monitor and sent across the network provided to the antenna controller through an I/O interface in a system such as taught by Goff et al., Tuttle and Craig et al. as a way of establishing a universal minimum signal strength threshold to all antenna controllers to provide uniformity across the network and reduce processing and associated time required associated with locally established minimum signal strength threshold without unexpected results.

2) In considering claims 15-16, Goff et al. and Tuttle made obvious all of the claimed subject matter as in the consideration of claim 5, wherein:

a) Goff et al. and Tuttle teaches the known use of a networked system of controllers and antenna interfaces for multiple addressed antennas for selective communication through each addressed antenna associated with a specific location;

while:

b) Craig et al. further teaches the known use of multiple switchable diversity antennas at each location for best signal reception, whereby a difference circuit at the diversity antenna array interface such that signal from each diversity antenna interface is compared to a predetermined minimum threshold as well as to each other to determine antennas having signal received signal strength above the predetermined signal strength as well as the one with the highest relative

signal strength so that the controller selects the antenna having the strongest signal to commence communication (Abstract; col. 5, line 32 to col. 6, line 24 and Fig. 3).

In view of the teachings by Goff et al., Tuttle and Craig et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that diversity antennas and a difference circuit such as taught by Craig et al. can be used with a communication system such as taught by Goff et al. and Tuttle using first and second couplers in the manner claimed so that communication at each location can be ensured by use of the diversity antenna array in combination with the difference circuit antenna selection feature.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1) Buehler, US pat. #6,011,698

--A known antenna energy dissipation feature (Abstract).

2) Ho et al., US pat. #6,025,799

--A similar position location system for transponders (Abstract and fig. 2).

3) Reudink, US pat. #5,781,864

--A similar radio wireless communication system using antenna matrix (sole figure).

4) Shober, US pat. #5,952,922

--A similar multiple antenna controller system connected in a network (Fig. 1).

5) Wood, Jr., US pat. #5,842,118

--A similar communication system including diversity antenna queuing (Fig. 7).

6) Loosmore et al., US pat. #5,682,142

--A similar electronic control network using tag communication (Fig. 3).

7) Snodgrass et al., US pat. #5,365,551

--A similar communication transceiver system using network interfaces (Fig. 1).

8) Isaacman et al., US pat. #5,936,527

--A similar location and tracking system using central control and network (Figs. 3-4).

9) Reis et al., US pat. #5,686,902

--A similar tag communication system (Fig. 2).

10) McAllister, US pat. #6,415,978

--A similar combination data reader module (Figs. 1-2).

11) Accolla et al., US pat. #5,600,304

--A similar EAS system with central common control (Fig. 1).

12) Skutta et al., US pat. #4,201,960

--A similar method for automatically matching an RF transmitter to an antenna (Fig. 1).

13) Koike, US pat. #5,465,411

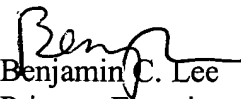
--A similar diversity receiver with switching noise reduction (Fig. 1).

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin C. Lee whose telephone number is (703) 306-4223.

The examiner can normally be reached on Mon -Fri 11:00Am-7:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on (703) 308-6730. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Benjamin C. Lee
Primary Examiner
Art Unit 2632

B.L.
6/12/04